

ENGINEERS
PLANNERS
SURVEYORS



June 6, 2014

Mr. Timothy Cassidy
Pine Bush Senior Living
823 West Park Avenue #256
Ocean, New Jersey 07712

RE: Traffic Evaluation, Senior Housing Development, 145 NY Route 155, Town of Guilderland, Albany County, New York; CM Project No. 113-186

Dear Mr. Cassidy:

Creighton Manning Engineering, LLP has conducted a Traffic Evaluation for the proposed senior housing development located at 145 NY Route 155 (New Karner Road) in the Town of Guilderland. This evaluation is based on the Preliminary Concept Plan dated September 13, 2013 with final revision dated February 28, 2014 prepared by Hershberg & Hershberg Consulting Engineers and Land Surveyors, included in Attachment A.

1.0 Project Description and Existing Conditions

The proposed project includes the construction of a 192-unit senior housing development divided into 56 assisted living units (72 beds), 40 memory care units (48 beds), and 96 independent living units. The project also includes development of a senior educational and resource center. Access to the site is proposed via a full access driveway opposite Gladwish Avenue and a right-in right-out driveway located approximately 475-feet south of the full access driveway near the southern property line. The project location is shown below.



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New Karner Road is designated NY Route 155 in the study area and provides north-south travel from Western Avenue (US Route 20) to Watervliet Shaker Road in the Town of Colonie. NY Route 155 continues south to NY Route 85A and north to Albany Shaker Road. Along the site frontage, New Karner Road transitions from a three-lane roadway (one lane in each direction with a center two-way left-turn lane) to a two-lane roadway with a single lane in each direction with six- to nine-foot paved shoulders on both sides of the roadway. There is a sidewalk on the east side of New Karner Road extending from Pine Knob Drive to Western Avenue (US Route 20) and a sidewalk on the west side of New Karner Road starting approximately 475-feet south of the proposed right-in right-out driveway and extending to Western Avenue (US Route 20). Along the site frontage and to points north pedestrians and bicyclists are accommodated on the paved shoulders. The posted speed limit on New Karner Road is 45-mph.

Transit service in the study area is provided by the Capital District Transportation Authority (CDTA). CDTA Route 117 provides limited service on New Karner Road through a drop-off at Corporate Circle, located ¼ mile north of the site, during the AM peak hour and a pick up during the PM peak hour. The proposed project is also located approximately 1/3 mile away from bus stops on Western Avenue. Western Avenue transit service includes CDTA Commuter Routes 719 and 763 which provide service approximately once per hour from 6:00 to 9:30 a.m. and 3:00 to 6:30 p.m. on weekdays.

2.0 Trip Generation

Trip generation determines the quantity of traffic expected to travel to/from a given site. The Institute of Transportation Engineers (ITE) *Trip Generation*, 9th edition, is the industry standard used for estimating trip generation for proposed land uses based on data collected at similar uses. The trip generation for the proposed project was estimated using land use code (LUC) 252 for Senior Adult Housing – Attached and LUC 254 for Assisted Living. Note that the assisted living land use code includes the memory care beds. Table 1 summarizes the trip generation estimate for the AM and PM peak hours.

The senior educational and resource center will not generate trips during the AM and PM peak hours, therefore trips associated with this portion of the development are not included in Table 1. It is anticipated that the senior educational and resource center will hold up to eight classes per month and two speaker events. The classes and events will occur during the day outside of the AM and PM peak hours and will therefore not increase peak hour traffic volumes on New Karner Road.

Table 1 – Trip Generation Summary

Land Use	AM Peak Hour			PM Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Senior Adult Housing – Attached (96 units)	6	13	19	13	12	25
Assisted Living (120 beds)	11	6	17	11	15	26
Total trips	17	19	36	24	27	51

The proposed project is expected to generate 36 new vehicle trips during the AM peak hour and 51 new vehicle trips during the PM peak hour. This is less than the New York State Department of Transportation (NYSDOT) and ITE threshold of 100 site generated

vehicles on any one approach for off-site intersection analysis. This guidance was developed as a tool to identify locations where the magnitude of traffic generated has the potential to impact operations at off-site intersections and screen out locations from requiring detailed analysis that do not reach the 100 vehicle threshold.

Data collected by Creighton Manning shows that New Karner Road currently serves approximately 1,435 vehicles during the AM peak hour and 1,765 vehicles during the PM peak hour. When distributed onto New Karner Road in the northbound and southbound directions, the new trips associated with the proposed *Senior Housing Development* represent an approximately 1.5% increase in traffic volumes during the AM and PM peak hours. This amount of traffic is accounted for in daily traffic volume fluctuations and will not impact traffic operations on New Karner Road.

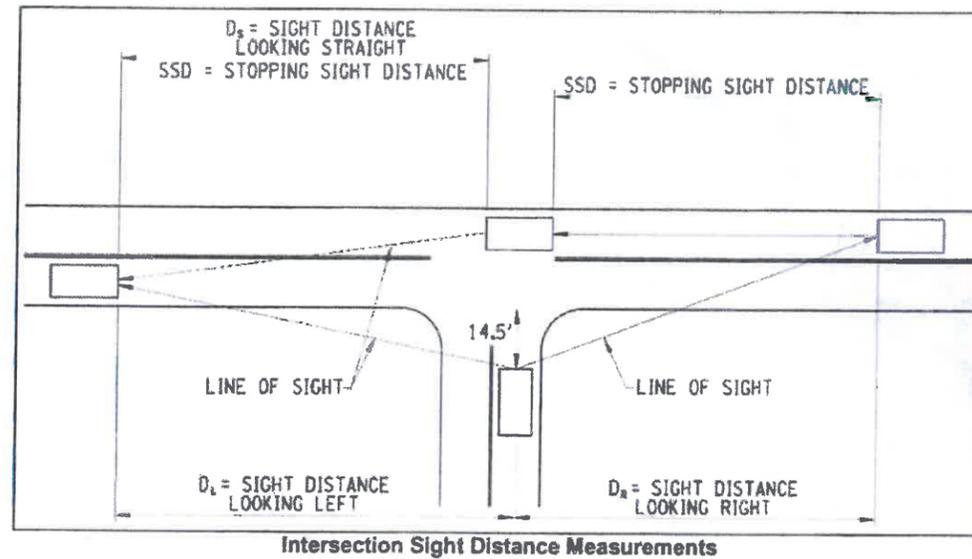
3.0 Guilderland Hamlet Neighborhood Plan

A review of the *Guilderland Hamlet Neighborhood Plan* dated January 2007 shows that the proposed project is located north of the "Eastern Gateway" portion of the plan. The plan does not include any recommendations for New Karner Road north of Western Avenue (US Route 20) or for the Western Avenue/New Karner Road intersection to the south of the project site.

4.0 Sight Distance Evaluation

A sight distance evaluation was completed at the two proposed driveways along New Karner Road. The available *intersection* sight distance was measured from the perspective of a passenger vehicle turning from the proposed driveways onto New Karner Road. In addition, the sight distance for vehicles traveling northbound on New Karner Road looking straight ahead to turn left into the project site via the driveway opposite Gladwish Ave was measured. The available intersection sight distance on a side street should provide drivers a sufficient view of the intersecting highway to allow vehicles to enter or exit the intersection without excessively slowing vehicles traveling at or near the operating speed on the intersecting mainline.

Stopping sight distance was also measured along New Karner Road at both proposed driveways. Stopping sight distance is the length of the roadway ahead that is visible to the driver. The available stopping sight distance on a roadway should be of sufficient length to enable a vehicle traveling at or near the operating speed to stop before reaching a stationary object in its path. The following diagram illustrates these sight distance measurements.



The posted speed limit on New Karner Road is 45-mph. Travel speed data collected by Creighton Manning shows that the 85th percentile travel speed on New Karner Road between Gladwish Avenue and Pine Knob Drive is 47-mph. The sight distances measured in the field were compared to the guidelines presented in the American Association of State Highway Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* for a 50-mph operating speed on New Karner Road. The results of the sight distance analysis are summarized in Tables 2 and 3.

Table 2 – Intersection Sight Distance Evaluation¹ (feet)

Intersection	Right-turn from Site Dwy (looking left)	Left-turn from Site Dwy		Left-turn from mainline (looking straight)	Crossing Maneuver from Site Dwy	
		Looking left	Looking right		Looking left	Looking right
North Site Driveway/New Karner Road/Gladwish Ave						
Available	>1,000	>1,000	700	>1,000	590	700
Recommended	480	555	555	405	480	480
South Site Driveway/New Karner Road						
Available	705	--	--	--	--	--
Recommended	480	--	--	--	--	--

1. Intersection sight distance is measured at 14.5 feet back from the travel way at an eye and object height of 3.5 feet.
 -- = Movement is not applicable at this location due to driveway restrictions

Table 3 – Stopping Sight Distance Evaluation¹ (feet)

Intersection	Northbound	Southbound
North Site Driveway/New Karner Road/Gladwish Ave		
Available	590	>1,000
Recommended	425	425
South Site Driveway/New Karner Road		
Available	--	770
Recommended	--	425

1. Stopping sight distance is measured for a 2-foot object located in the path of northbound and southbound vehicles.

-- = Movement is not applicable at this location due to driveway restrictions

The sight distance analysis shows that the sight distances measured in the field exceed the AASHTO guidelines for a 50-mph operation speed. No sight distance mitigation is recommended.

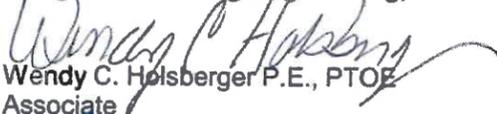
5.0 Conclusions

The proposed project includes the construction of a 192-unit senior housing development located at 145 New Karner Road. Access to the site is proposed via a full access driveway opposite Gladwish Avenue and a right in-right out driveway 475-feet to the south along New Karner Road. The project is expected to generate 36 new vehicle trips during the AM peak hour and 51 new vehicle trips during the PM peak hour representing an approximate 1.5% increase in volume in New Karner Road north and south of the proposed project during the AM and PM peak hours. This magnitude of traffic can be accommodated by the existing roadway network and does not meet the NYSDOT and ITE guidance for detailed evaluation of off-site intersections.

The sight distance evaluation completed for the two proposed site driveways shows that sight distances measured in the field exceed the AASHTO guidelines for a 50-mph operation speed and no sight distance mitigation is recommended.

If you have any questions regarding the above analysis, please feel free to contact our office.

Respectfully submitted,
Creighton Manning Engineering, LLP

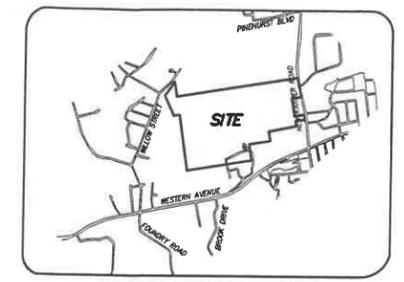
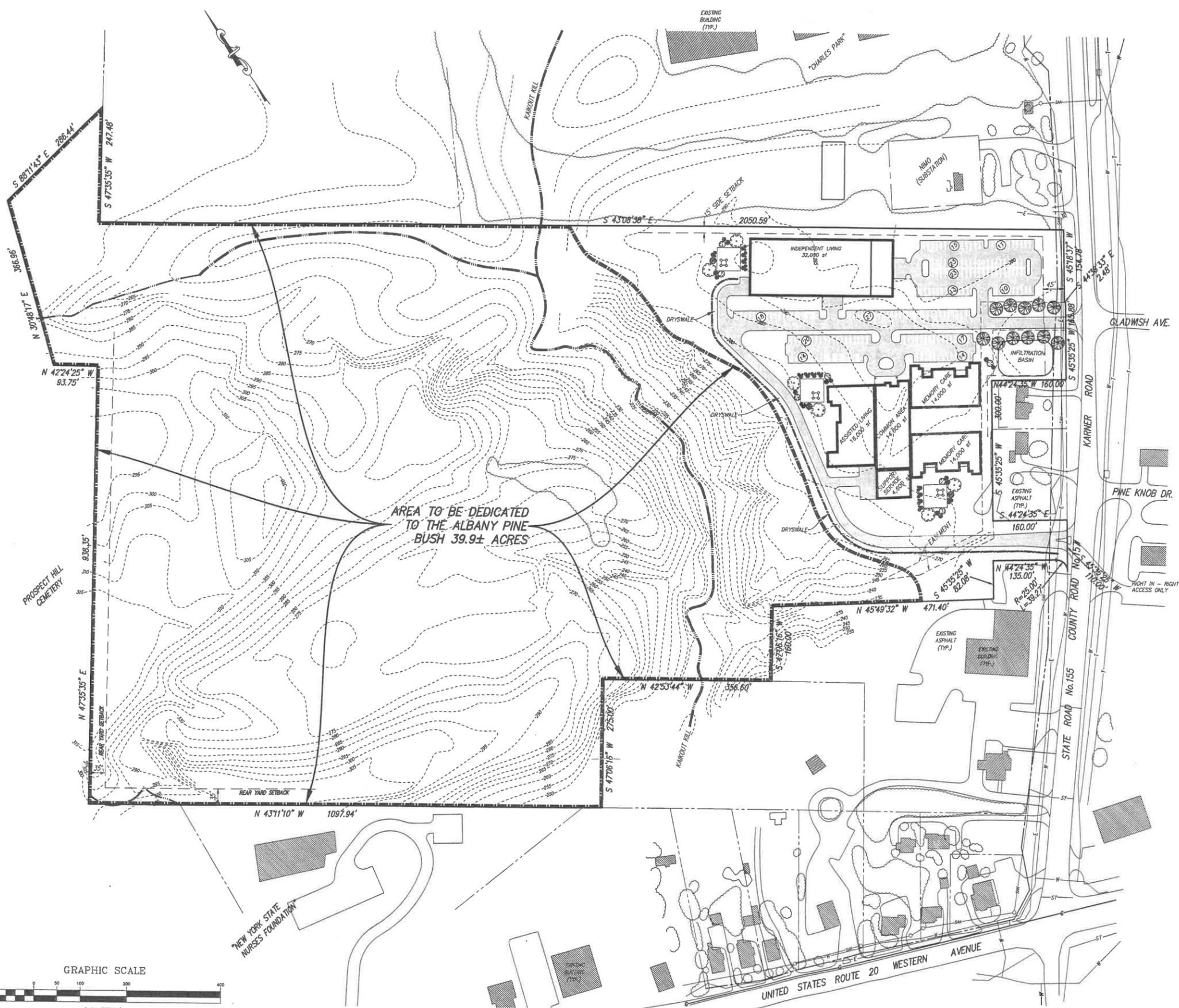

Wendy C. Holsberger P.E., PTOE
Associate


Alanna M. Moran, I.E.
Project Engineer

Attachments

Attachment A
Preliminary Concept Plan

145 New Karner Road
Town of Guilderland, New York



VICINITY MAP
MAP NOT TO SCALE

- PROPOSED LEGEND**
- 30.5 — PROPOSED CONTOURS
 - — — PROPOSED CURB
 - — — PROPOSED PAVEMENT
 - — — PROPOSED PAVEMENT MARKINGS
 - — — HANDICAPPED PARKING
 - PROPOSED POROUS PAVEMENT
 - PROPOSED MANHOLE
 - PROPOSED DRYWELL
 - — — PROPOSED WATER MAIN & VALVE
 - — — PROPOSED STORM SEWER
 - — — PROPOSED SANITARY SEWER
 - — — PROPOSED ROOF DRAIN
 - — — PROPOSED CONCRETE WALK
 - FD=271.0 FINISHED GRADE
 - EO=220.0 EXISTING GRADE

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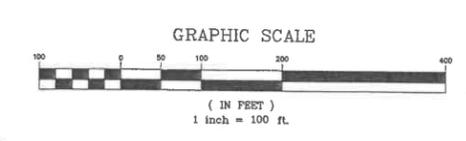


DATE	2/28/14
REMARKS	PINE BUSH PRESERVE AREA
REVISIONS	

**PRELIMINARY CONCEPT PLAN FOR
No. 145 NEW KARNER ROAD
TOWN OF GUILDERLAND, COUNTY OF ALBANY,
STATE OF NEW YORK**

DATE: 9-11-2013
BY: SMC
SCALE: 1"=100'
FILE: 2013-0714-1

ASSISTED LIVING (AL) - 56 units / 72 beds - 35 spaces
MEMORY CARE (MC) - 40 units / 48 beds - 30 spaces
INDEPENDENT LIVING - 96 units - 85 spaces
SENIOR EDUCATIONAL AND RESOURCE CENTER - 55 spaces



FOR MUNICIPAL APPROVAL ONLY-NOT INTENDED FOR CONSTRUCTION